

CLAIMS

Please amend the claims as follows:

1. (Currently Amended) Apparatus for use in a first device to receive digital data non-wirelessly from a second device and to transmit digital data non-wirelessly to the second device, the apparatus comprising:

a single jack configured to ~~couple to either one of a headphone or a headset and to~~ receive analog signals encoded with the digital data from the second device and to transmit analog signals encoded with digital data to the second device;

a first conversion unit coupled to the single jack and configured to encode digital data into analog signals for transmission to the second device; and

a second conversion unit coupled to the single jack and configured to recover the digital data from the analog signals received from the second device;

wherein the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone.

2. (Original) The apparatus of claim 1, further comprising:

a non-wireless communication device configured to couple with the jack, the non-wireless communication device configured to carry the analog signals encoded with digital data to the first device using the jack.

3. (Original) The apparatus of claim 2, wherein the non-wireless communication device comprises:

a non-wireless medium having a first end and a second end;
 a first plug coupled to said first end and configured to couple to the jack; and
 a second plug coupled to said second end and configured to couple to a jack of the
 second device.

4. (Cancelled)

5. (Currently Amended) The apparatus of claim [[4]] 1, wherein the jack is configured to receive perceptible sound.

6. (Currently Amended) A method for use in a first device to receive digital data non-wirelessly from a second device and to transmit digital data non-wirelessly to the second device, the method comprising:

receiving analog signals encoded with the digital data from the second device using a single jack that is configured to couple to either one of a headphone or a headset;

recovering the digital data from the analog signals received from the second device;

encoding digital data into analog signal; and

transmitting the analog signals encoded with digital data to the second device using the signal jack;

wherein the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone.

7. (Original) The method of claim 6, further comprising:
coupling a non-wireless communication device to the jack; and
receiving the analog signals through the non-wireless communication device.
8. (Original) The method of claim 7, wherein receiving the analog signals comprises:
receiving the analog signals as audible analog signals.
9. (Original) The method of claim 7, wherein receiving the analog signals comprises:
receiving the analog signals electronically.
10. (Original) The method of claim 6, further comprising:
receiving perceptible sound using the jack.
- 11 – 20. (Cancelled)
21. (Currently Amended) Apparatus for use in a first device to receive digital data non-wirelessly from a second device and to transmit digital data non-wirelessly to the second device, the apparatus comprising;
means for receiving through a single jack analog signals encoded with the digital data from the second device; and
means for recovering the digital data from the analog signals received from the second device;

means for encoding digital data into analog signals for transmission to the second device;
and

means for transmitting through the single jack analog signals encoded with digital data to the second device;

wherein the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the single jack is configured to couple to either one of a headphone or a headset.

22. (Original) The apparatus of claim 21, further comprising:

a non-wireless means for carrying the analog signals encoded with the digital data to the first device using the jack.

23 – 33. (Cancelled)

34. (Previously Presented) The apparatus of claim 1, wherein the first conversion unit is further configured to encode digital data based on multi-carrier modulation and the second conversion unit is further configured to recover digital data based on multi-carrier demodulation.

35. (Previously Presented) The apparatus of claim 34, further comprising:

a sensor configured to detect whether a plug has been coupled to the single jack.

36. (Previously Presented) The method of claim 6, further comprising:

recovering the digital data from the analog signals received from the second device based on multi-carrier demodulation; and

encoding digital data into analog signals for transmission to the second device based on multi-carrier modulation.

37. (Previously Presented) The method of claim 36, further comprising:
detecting, via a sensor, whether a plug has been coupled to the single jack.

38. (Previously Presented) The apparatus of claim 21, wherein
means for recovering the digital data from the analog signals received from the second device is based on multi-carrier demodulation; and
means for encoding digital data into analog signals for transmission to the second device is based on multi-carrier modulation.

39. (Previously Presented) The apparatus of claim 38, further comprising:
means for detecting, via a sensor, whether a plug has been coupled to the single jack.

40. (Previously Presented) Apparatus for use in a first device to receive digital data non-wirelessly from a second device and to transmit data non-wirelessly to the second device, the apparatus comprising:

a single jack configured to receive analog signals encoded with the digital data from the second device and to transmit analog signals encoded with digital data to the second device;

a first conversion unit coupled to the single jack and configured to encode digital data into analog signals for transmission to the second device, the first conversion unit comprising

- a forward error correction element,
- an interleaver,
- a digital modulator,
- an inverse fast Fourier transform element,
- an up-converter, and
- a digital to analog converter; and

a second conversion unit coupled to the single jack and configured to recover the digital data from the analog signals received from the second device, the second conversion unit comprising

- an analog to digital converter,
- a down-converter,
- a synchronization unit,
- a fast Fourier transform element.
- a digital demodulator,
- a de-interleaver, and
- a decoder;

wherein the first device is one of a mobile phone, a personal digital assistant or a smart phone and wherein the second device is one of a mobile phone, a personal digital assistant or a smart phone.

41. (Previously Presented) The apparatus of claim 1, wherein the single jack is configured to couple to either one of a headphone or a headset, the apparatus comprising a determining circuit which determines that one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack by way of transmission of a control signal and return of a response signal.

42. (Previously Presented) The method of claim 6, the method comprising determining if the apparatus may be placed in a digital data communication mode by determining that one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack by way of transmission of a control signal and return of a response signal.

43. (Previously Presented) The apparatus of claim 21, wherein the single jack is configured to couple to either one of a headphone or a headset, the apparatus comprising means for determining if one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack by way of transmission of a control signal and return of a response signal.

44. (Previously Presented) The apparatus of claim 40, wherein the single jack is configured to couple to either one of a headphone or a headset, the apparatus comprising a determining circuit which determines that one of a mobile phone, a personal digital assistant or a smart phone is connected to the jack by way of transmission of a control signal and return of a response signal.